

Mütter (J. H. D.)

THE

SALT SULPHUR SPRINGS,

MONROE COUNTY, VA. .

BY

THOMAS D. MÜTTER, M. D.,

LECTURER ON SURGERY; CORRESPONDING MEMBER OF THE N. Y. MEDICAL AND
SURGICAL SOCIETY; FELLOW OF THE COLLEGE OF PHYSICIANS OF PHILA-
DELPHIA; MEMBER OF THE PATHOLOGICAL SOCIETY OF PHILADELPHIA;
MEMBER OF THE ACAD. OF NAT. SCIENCES OF PHILADELPHIA; HON.
MEMBER OF THE MEDICAL SOCIETY OF PHILADELPHIA; ONE
OF THE PHYSICIANS TO THE PHILADELPHIA DISPENSARY;
ONE OF THE COUNCIL OF THE HISTORICAL SOCIETY,

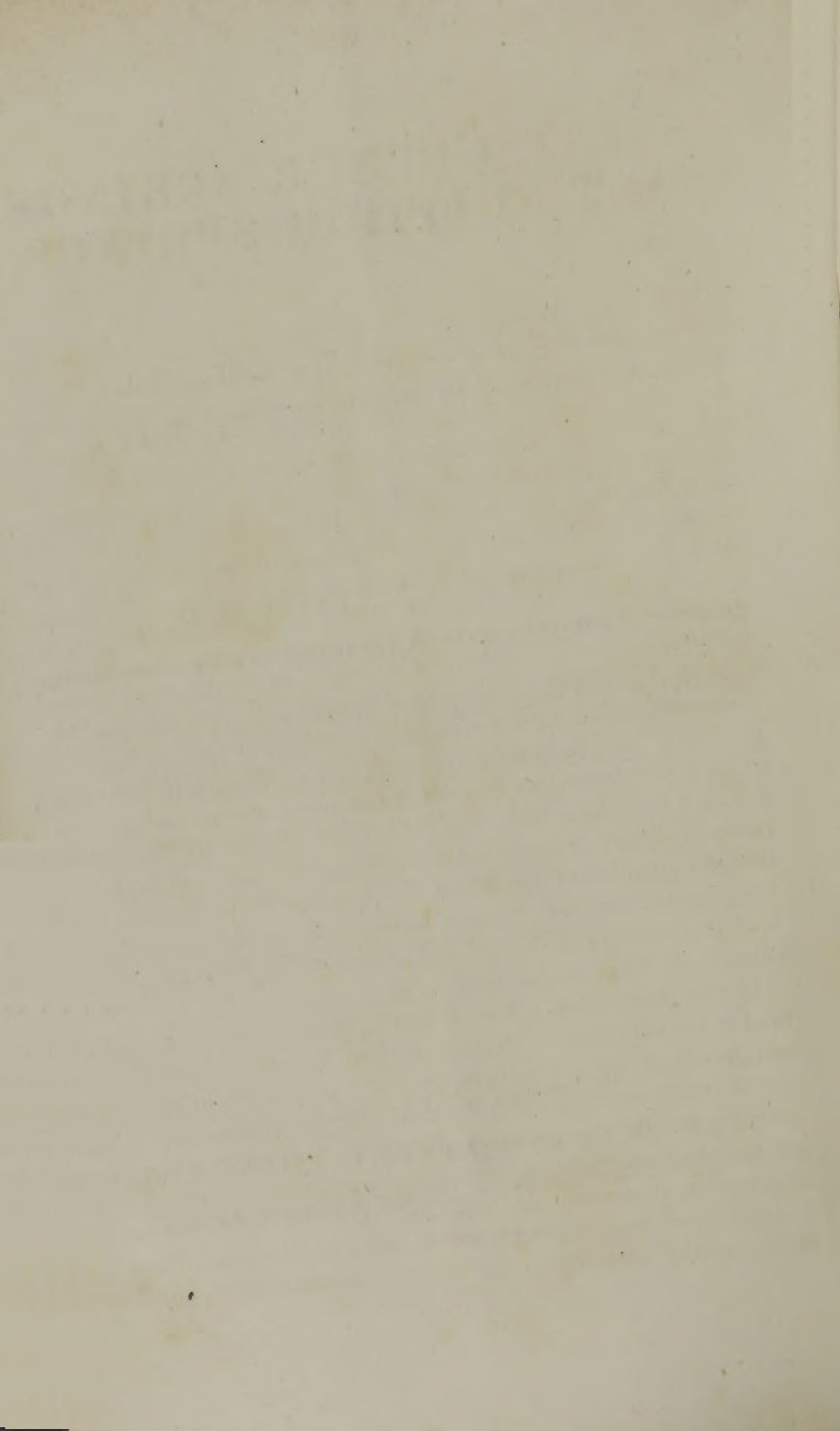
&c.

PHILADELPHIA:

T. K. & P. G. COLLINS, PRINTERS,

No. 1 LODGE ALLEY.

.....
1840.



PREFACE.

"It is not unamusing," observes Shenstone, "to consider the several apologies that people make when they commence authors. It is taken for granted, that in every publication there is at least a seeming violation of modesty; a presumption on the writer's side that he is able to instruct or to entertain the world; which implies a supposition that he can communicate what they cannot draw from their own reflections." It does not appear to me necessary, to offer an apology to the public for introducing to their more particular attention the "Springs of Virginia," or more properly that group of mineral springs of the powerful sanative influence of which we have all heard, but of whose true character so little, even at this time, is known! This ignorance is attributable perhaps, in the first place, to their remote location, which prevented, for a length of time, an accurate investigation into their properties by competent persons; and in the second, to the "tide of fashion," having set in another direction. Within the last few years so numerous have been the cases of different ills, either radically cured, or materially benefitted by their employment, that the attention of the whole North seems at the present moment to be directed towards them. The fashionable man, as well as the victim of disease, begins now to ask, "What sort of a place is the Virginia Springs?"

In the year 1834 I was induced, in consequence of feeble health, to visit this delightful, as well as health-restoring region, and during my residence there, engaged extensively in the practice of my profession. My object in seeking professional occupation was solely to ascertain for myself, as nearly as possible, the merits of the different waters, and I succeeded in collecting a number of interesting, as well as practically important facts, bearing upon their employment in different diseases. These I determined to embody in the shape of a small work, and had

gone so far as to make arrangements for its publication. Professional as well as other engagements, which could not be set aside, obliged me to give up my intention, and it is more than probable, that I should never again have taken up the subject, had not my health once more obliged me, in the summer of 1839, to repeat my visit. From a variety of causes, I was forced into a very extensive practice, which circumstance, although it formed a very serious obstacle to my own recovery, was nevertheless, the means of verifying the observations made in 1834, and induced me to revive my original plan of making public what I had collected relative to the therapeutic influence of the different Springs.

I propose devoting a pamphlet to *each* of these waters, (in order to prevent any thing like confusion in their administration) and shall commence with the "*Salt Sulphur*," a spring as yet little known among us, but whose sanative influence in many diseases cannot fail to establish for it ere long a reputation of the highest order. I do not pretend to offer the brief sketch which I propose to give, as a thoroughly digested or very scientific resumé, yet I trust my efforts to afford *useful and correct medical information* will prove profitable to the *afflicted*; to the *profession*; and to the *proprietors* of the *establishments*.

CHAPTER I.

ON MINERAL WATERS IN GENERAL.

WERE I disposed to enter into a detailed account of the introduction of mineral waters as therapeutic agents into the science of medicine, there would be no lack of interesting materials for the purpose: but the object of this pamphlet being to introduce to the especial notice of the public, a water hitherto but little known, and but rarely appreciated, the occupation of its pages by a "History of Mineral Waters," would be foreign to our intention. We shall, therefore, refer all such as take an interest in the subject, to the writings of Patissier, Bourdon, Franceschi, and John Bell, in which they will find that princes and beggars, poets and historians, doctors and quacks, have from time to time stood forth in their behalf.*

Although we cannot spare time or space for the discussion of the *history*, a few remarks relative to the *operation* of *mineral* waters will not be inapposite, and may prove useful to the general reader. The vulgar axiom, "that no two doctors agree upon any given point," is unfortunately but too often verified by the thoughtlessness and want of care displayed by physicians in the promulgation of an opinion or the recommendation of a remedy. Upon no question, however, has this want of unanimity been thrown into bolder relief, than upon that referring to the agency of mineral waters in the cure of disease. While some, carried away no doubt by a blind enthusiasm, consider them as panaceas to almost every ill, and recommend their use apparently without reference to their physical and chemical differ-

* "The term *mineral* has been applied by chemists and physicians, to every water issuing from the earth, and impregnated with mineral or saline substances to such an extent as to receive a strong taste, and fitting it for a common beverage, and yet imparting to it such properties as to render it an useful agent when drunk in a great number of diseases."—*Bell on Baths and Mineral Waters.*

ences, or even the condition of the patient, others look upon them as almost inert, and attribute the removal of the morbid condition of the system to the exercise in travelling, to the various amusements, change of air, and mode of living. Both parties, (as is the case with all who push their theories to ultraism,) are in error! If we recollect that nearly all mineral waters are *active* agents, and present differences in their physical and chemical properties, it will be obvious that they are adapted to the cure of different diseases, or different stages of the same: and hence, that their administration should be governed by a physician well acquainted with the peculiar properties of each, as well as with the nature of the disease for which he employs them!

To those who *deny* their *active* agency in the cure of disease, we would say, that while acknowledging the powerful sanative influence of exercise, change of air, and scene, we cannot for an instant doubt, that a very large majority of the cases relieved by a visit to some mineral spring would have returned home very little if at all benefitted, had they been consigned to the influence of these agents alone. In the language of Patissier, we may without much hesitation assert that "in general, mineral waters revive the languishing circulation, give a new direction to the vital energies, reestablish the perspiratory action of the skin, bring back to their physiological type the vitiated or suppressed secretions, and provoke salutary evacuations by the different emunctories: they bring about in the animal economy an intimate transmutation, a profound change; they saturate the sick body."

When a mineral water is taken into the stomach or intestines, it is supposed to exert a double action upon the economy. 1. It operates as a simple hygienic agent: this mode of action is common to all, and depends upon the nature of the vehicle holding the active principle in solution, which is *water*. 2. It acts from the nature of its constituent principles in a peculiar or specific manner. This last action is nearly always manifested by *general* or *local excitement*.* It is, moreover, the action upon which the sanative impressions of the water for the most part depend, but to be useful, it must be restricted within proper limits; if it is

* A marked exception to this is met with in the waters of the Red Sulphur, which are almost invariably *sedative* in their operation.

slow and gradual, it often relieves and cures the disease; if, on the other hand, it be too intense, it exasperates, and often to a fatal termination, all the sources of irritation. It is obvious that mineral waters are not adapted to *acute* diseases of any kind, inasmuch as they augment the activity of the circulation, and thus keep up or even increase the inflammatory action upon which these diseases depend; they are on the other hand highly beneficial in *chronic* complaints, and the good effects arising from their use in such cases are the more striking as well as durable in proportion as they are brought about *gradually*. The removal of the disease is sometimes indicated by a critical effort of nature, which is manifested in the different secretions, or by the appearance of eruptions on the surface of the body. Sometimes, on the contrary, the cure takes place *silently*, or without any appreciable change in any of the functions; the patient getting daily better and better without being able to account for it. There are some chronic diseases, however, in which mineral waters do harm: such are aneurisms of the heart and large arteries, cancerous affections, confirmed tubercular consumption, and some complaints of the brain.

From the fact that almost all mineral waters *stimulate* more or less powerfully the whole system, some physicians have attributed all the benefit derived from their employment to this circumstance alone. Such an opinion is by no means correct; for, although this action is probably the most striking, still it is not the only one. It is very certain that besides stimulating the organism at large, they, (according to the difference of their properties,) direct their impressions *especially* upon different organs. Thus some, as the sulphurous, act principally upon the skin and chylopoietic viscera, others as the chalybeate, upon the kidney and bladder. It is moreover generally admitted, I believe, that when absorbed and conveyed throughout the economy, they have the property of changing the consistence as well as the composition of our fluids, thereby accomplishing what is called an *alterative action*—and often too without producing much excitement.—Lastly, if mineral waters acted only as *stimulants*, why does not the substitution of ~~every~~ other stimulant produce the same result? The *degree* of excitement occasioned depends upon a variety of circumstances; for instance, the temperature of the

water, the greater or less energy of its mineral principles, the quantity taken, the manner in which it is administered, and the particular condition of the individual who uses it; all of which should be held in view in our discussions relative to its employment or disuse. The *special* action of the water is also modified by the same circumstances, the same water being purgative in one case, diuretic in another, and diaphoretic in a third.

Few patients, however, recover their health entirely by the immediate effect of the water. "Some are partially relieved, and the greater number are cured only after the lapse of several weeks or months!"*

This observation is annually verified in the cases visiting the Salt Sulphur, and many experience an aggravation of all their symptoms while using the water. I have generally observed whenever this was the case, that the exacerbations were *crises* in the disease, and when very acute almost always indicative of an ultimate radical cure. So common is such an event, that you will hear the "*habitués*" of the spring consoling those laboring under these critical attacks, with the assurance that there is no better sign of the waters "*doing them good!*" It often happens, nevertheless, that the excitement is such as to call for medical treatment, and it is almost always proper to omit the use of the water during its continuance. We must be careful not to confound these critical exacerbations with those developed by the water in cases to which it is not adapted. Whenever we find that it *really disagrees* with the patient, its use must be suspended and other agents or a different spring had recourse to. The renewal or exacerbation of the disease is the result of the stimulating property of the water which frequently excites *acute* inflammation in the organs suffering originally under one of a *chronic* type. In these organs a *new action* is thus set up which often removes every vestige of the old one.

Like every other remedy of any efficacy mineral waters are liable to abuse and it is really astonishing that such glaring errors should be daily committed, not only by the patients, but often by the physicians who recommend their employment. It is by no means an uncommon occurrence, (and those who have visited

* Bell on Baths and Mineral waters.

the springs of our country, will bear me out in the statement I am about to make,) for an invalid to arrive, furnished with a "carte blanche," from a physician who has probably little or no knowledge of the active properties of the agent he recommends, to use the water as he may see fit, or with merely a charge to use it with caution. Others are sent without any directions whatever, in the hope that the water may suit their condition, and come trusting in Providence alone. Others again arrive with written instructions, to drink so many glasses of water per diem, whether it agrees with them or not. Many patients do not take the advice of a physician at all, but relying on the representations of those who have derived benefit, imagine that they too will be cured, although in all probability, from the nature of their disease, this water may be the most prejudicial to which they could resort. Used in this careless and dangerous manner, is it to be wondered at, that so many individuals leave the springs, either not at all benefitted, or in a worse condition even than when they arrived? The regulations which are thought necessary, and which are adopted in most European countries, especially France and Germany during the use of a mineral water, are either unknown or neglected in this. There, nearly every spring is supplied with an experienced physician, one familiar with the character of the water, whose duty it is to take charge of the sick as they arrive: here, with but one or two exceptions, those who frequent our watering places have to rely on *chance* for medical aid. Is this as it should be?

For the sake of those who may not have it in their power to consult a physician, I will conclude this section with a few rules applicable to the employment of nearly all the active mineral waters in the United States, in cases to which they are suited.

1. As already remarked, there is probably no greater error existing, than the one which attributes to the *prompt* and *obvious* effect of a mineral water, its beneficial operation upon the system. So far from this being a favorable circumstance, almost all the alterative action (the one to be desired) of the water is lost, and the patient, instead of being relieved, is often injured by its use. The individual, therefore, who wishes to obtain its sanative influence, must take it, as a *general rule*, in *small quantities* and for *some days*, in order that the system

may become fully saturated. This is very different from the advice often given, and but too readily pursued by those who receive it. Under the impression that no injury can be produced by the water, and that the greater the quantity taken, the more certain and permanent will be the relief, many individuals are induced to make use of it in a manner calculated to do them much injury. I have repeatedly heard persons boasting of having swallowed 14, 20, or even 30 glasses of a mineral water, per diem. Used in this way, it rarely if ever produces the desired effect. It is certainly true that some require a much larger quantity than others to obtain a given result, but there is scarcely one in a thousand who will need, or can support with impunity, the *drenching* of which they boast. I have rarely met with a person who *at first* could take with advantage more than from six to eight glasses of any mineral water, (with the exception, probably, of that of the *Red Sulphur*,) per diem. By degrees, this quantity may increase up to ten or twelve, and this as a general rule should be considered the maximum dose. Employed in this way even, I have known the sulphur waters in some constitutions, particularly the easily excited, produce very disagreeable effects, such as headache, nausea, and furred tongue, with more or less febrile excitement. This is not, however, the usual primary effect of the use of a sulphur water, for the most part this action is manifested by the increased secretion which takes place from the kidneys and bowels, in some cases so profuse as to amount to a serious disease. When the water does not pass off by one or the other of these emunctories, or by the skin, it produces the symptoms of plethora, and general uneasiness alluded to.

2. Preparation of the system for the use of a mineral water, is often necessary to secure a proper effect, and some go so far as to insist upon it in every case. Persons in health, and especially those of a plethoric habit, will generally require a mild laxative, with a light diet, for a few days before the water is taken freely. Persons in feeble health should always commence with caution, and, provided the water produces the desired effect, no medical treatment will be required. Where, however, it fails to afford relief, a physician should be consulted, who will prescribe according to the exigencies of the case. *No general rules can be given*

respecting the treatment, one patient often requiring an *anti-phlogistic*, while another may need a *tonic* course.

3. The time of day at which a mineral water should be taken, is a matter of primary consideration. Some use it at *morning*, *noon* and *night*, than which, as a general rule, no course is better calculated to destroy its therapeutic tendency. Others drink it only before breakfast, and on going to bed, a plan less prejudicial than the first, inasmuch as a less quantity is usually taken. The manner which seems to us the ~~most~~ most rational, and the one which experience undoubtedly sanctions, is this: Let all that is to be taken during the day, be divided into two parts; drink one before breakfast, and the other about an hour before dinner. Used in this way, the water is always received upon an empty stomach, and is immediately disposed of in some way or other; the impression being consequently much more effectual. When taken at night, it is apt to cause disturbed dreams, restlessness, and headache in the morning. The custom of taking it immediately *before* or *after* a meal, is highly *injurious*, inasmuch as the digestive process, the proper performance of which is so necessary to the well being of the individual, is interfered with and disturbed by the presence of so large a quantity of liquid; and the result is, that some of the most obstinate cases of dyspepsia are annually produced, instead of being *cured* by the use of mineral waters.

4. Another practice almost as reprehensible as the one just alluded to, is that of taking glass after glass in *quick succession*. Here the stomach is given more than it can readily dispose of, and is distended to a degree that is highly injurious. Eructations, giddiness, from the stomach pressing upon the large vessels of the trunk, and thus impeding the circulation; and finally, atonic dyspepsia are the consequences of this practice.

5. The *number of days* that a mineral water may be used, will of course depend upon circumstances. Most persons cannot bear its administration longer than twenty or thirty days. About the expiration of this period, symptoms of gastric distress, with headache, furred tongue, quick and irritable pulse, costive bowels, and loss of appetite come on, which, provided the use of the water be continued, soon declare themselves in a more vigorous form, and a general attack of fever is developed. In some cases,

however, I have known these symptoms to manifest themselves as early as the eighth day, and in others again to be postponed to the sixth or eighth week. Persons laboring under disease, must, of course, be guided by their sensations: should they discover a marked improvement in their cases, I would advise them to remain as long as this improvement continues, but as soon as there is a change for the worse, to leave the spring, or discontinue the use of the water. I have also witnessed cases in which a water disagreeing for the first few days, subsequently brought to bear its operation with the happiest effects. In such, the best plan is to suspend the use of the water, until by the administration of medicine, diet, &c., the system has been reduced to the tolerant point, or use it in very small quantities, along with the agents alluded to, until the same end is attained.

6. Another very injurious practice prevails at most of the watering places in this country. It is supposed by many that taking the water directly from the spring, contributes very much to its efficacy, and consequently, we find the *sick* and *feeble*, as well as the robust, sallying forth by break of day for this purpose. When we reflect that at this early hour the temperature of the atmosphere (in the mountains at least) ranges from 55° to 60° , and that frequently the whole place is enveloped in a fog so dense as to be almost impenetrable, we may readily imagine that the invalid is pursuing a course fraught with danger. Many and many a chill or cough has thus been rendered difficult to cure, or so firmly seated in its organ as to baffle all the efforts of the physician. The water is undoubtedly more palatable when taken in this way, but it is not more *efficacious* than when drank at the cabin. Every invalid should bear this in mind, particularly those who visit the "White Sulphur Spring."

7. At such places, there is generally but one system of living, to which all must submit, and unfortunately, it is one, as a general rule, any thing but proper for an invalid, who is often obliged to suffer, and sometimes severely for the want of those articles of food which usually constitute the diet of the sick. It is to be hoped that the worthy proprietors of some of our watering places, will bear this fact in mind, and provide a store for the sick as well as for the robust. It is impossible to lay down any definite rules upon this point, but to use the language of one well

versed in the principles of dietetics, "The invalid must never so far forget himself as to imagine that the mineral water which he drinks, will prove an antidote against the poison of the kitchen or the cellar." That food which at home was found to agree best with the patient, may be used at the spring, and when the disease assumes an acute form, the diet must be regulated by the physician in attendance.

8. While using a mineral water, it will be well for the invalid to employ occasionally the bath either hot or cold according to the indication in his case. As this agent is one of much importance, it will be proper for invalids to consult their physicians before resorting to it, who will regulate the temperature, and say how often, as well as at what time, it is to be used.

9. It is the celebrated Sydenham, I believe, who has observed, "The practice of changing the dress with each season, kills more persons than *gunpowder*," and daily observation proves the correctness of the remark. In our country it is peculiarly the case. If "the well are made sick" by such changes, how much greater will be the risk of an invalid who pursues the same course! Yet how reckless are most persons in this respect! I have often seen a consumptive patient, or one laboring under some other chronic complaint, exchange his winter pantaloons for summer ones, and perhaps throw off his flannel, because the thermometer happened to range for a few days or hours higher than was agreeable to his sensations. In all chronic complaints it is highly important to keep up a certain degree of excitement on the surface of the body, and to accomplish this, *flannel next the skin*, and other warm clothing, should be constantly worn. To all invalids, then, I would advise no change in their dress, as the summer advances, and to those visiting mineral springs, is this remark particularly addressed; for, as a general rule, no locations are so subject to sudden and severe atmospheric vicissitudes.

10. An invalid should also bear in mind that *exercise* is often an essential agent in the cure of many diseases, and should not, from the fact of his making use of another supposed to be more efficacious, neglect it. The *kind* of exercise must, of course, be governed by the circumstances of the patient, as well as by the nature of the disease. Riding on horseback, driving, walking, dancing, &c., may be resorted to in turn.

CHAPTER II.

THE SALT SULPHUR SPRINGS.

THE Salt Sulphur Springs, three in number, are situated in the county of Monroe, in $37\frac{1}{2}^{\circ}$ north latitude, and 5° longitude west of Philadelphia, and at an elevation of about fourteen hundred feet above tide water. All the springs are situated on "Indian Creek," a small limestone stream which rises in a valley a few hundred yards above the Old or Sweet spring, and after pursuing its "devious way" for about twenty-three miles in a southwest direction, finally empties into New River, in Monroe County. It derives its name from the circumstance of the Indians, who, in former times were in the habit of entering the valley of Virginia from Kentucky and Ohio, almost invariably making it their "*camping stream*." Their graves, along with other traces of their frequent resort to this particular spot, are occasionally met with at the present day.

The Salt Sulphur is hemmed in on every side by mountains. To the south and east, in full view, and about ten miles distant, is Peters' Mountain; due north, and about fourteen miles distant, is a low spur of the Allegheny; and west, it is bounded by Swope's Mountain, at, or near the base of which, are the two principal springs.

It appears, from the statement of some of the "oldest inhabitants," that the *Old* or *Sweet* spring was discovered in 1802 or 1803, by Alexander Hutchinson, Esq., who was engaged in boring for salt along Indian Creek. For several years it enjoyed much celebrity, and was annually the resort of a large company. The house occupied as the Hotel, and several of the old cabins are still standing. The opening of the *Salt Sulphur Spring*, the medical properties of which are so much more strongly marked, and the erection of commodious buildings near it, soon destroyed the fame of the *Sweet*, the water of which is at the

present time used almost exclusively for the baths, although there are some individuals who still prefer it to that of either the Salt or New spring. To gratify such, and at the same time to test the value of the water, the enterprising proprietors, in the summer of 1839, caused the spring to be deepened and thoroughly repaired. At present, it is enclosed in a white marble reservoir, two feet square by two feet four inches in depth, over which is erected a neat wooden edifice, of an order "*sui generis*." In taste, smell, color and constituents, it closely resembles the *Salt Spring*, but is much more feeble as a remedial agent, which is to be attributed to its containing a smaller quantity of the active principles common to both.

The second spring or the Salt Sulphur proper, was discovered in 1805, by Erwin Benson, Esq. He was induced to believe, that either sulphur water or salt, might be found in considerable quantities at the spot now occupied by the spring, from the fact of its being the favorite "Lick," of immense herds of Buffalo and Deer. Under this impression he began boring, and had penetrated but a short distance below the surface, when he struck the vein of Sulphur water, now constituting the spring. Like the old, this spring is inclosed in a marble reservoir, two feet square, and about two feet ten inches deep, but from the boldness of its sources, it is probable, that this spring will be enlarged. It is protected from the influence of the weather, by a neat and appropriate edifice, furnished with seats. The water possesses all the sensible properties of the sulphur waters in general; its odour for instance, is very like that of a "tolerable egg," and may, in certain states of the atmosphere, be perceived at some distance from the spring, and in taste it is cousin-german to a strong solution of Epsom salts and magnesia. In a short time, however, strange to say, these disagreeable properties are either not observed, or become on the other hand, attractive; indeed, there is hardly an instance of an individual's retaining his original repugnance to them longer than three or four days, and some there are, who become so excessively fond of the water, as to give it the preference over any other liquid. Like most of the sulphurous, this water is perfectly transparent, and deposits a whitish sediment composed of its various saline ingredients—mingled with sulphur. It is also for the most part placid; occasionally, however, it is disturbed by

a bubble of gas which steals slowly to the surface, where it either explodes with a timid and dimpling smack, or is eagerly caught up by some care worn and almost world-weary invalid, as a gem from the treasury of Hygeia!

The following analysis of this spring is furnished by Professor Rogers, of the University of Virginia.

Solid Ingredients.

Sulphate of lime.

Sulphate of magnesia.

Sulphate of soda.

Carbonate of lime.

Carbonate of magnesia.

Chloride of sodium.

Chloride of magnesium.

Chloride of calcium.

Iodine probably combined with sodium.

Sulpho-Hydrate of sodium and magnesium.

Sulphur mingled with a peculiar organic matter.

Per-oxide of Iron derived from Proto-sulphate.

Gaseous Ingredients.

Sulphuretted Hydrogen.

Nitrogen.

Oxygen.

Carbonic Acid.

The bubbles of gas that are seen adhering to the sides of the spring are composed almost entirely of nitrogen."

The precise proportions of the solid ingredients will shortly appear in the "Report on the Geology of Va.," which Professor Rogers is at the present moment preparing for the press, and for the appearance of which the medical profession has been for some time anxiously waiting. The temperature of this water is 50° Fah.

The third, or "*New Spring*," was discovered in 1838 by the proprietors, while engaged in cutting a drain for the water of the "Salt," and was immediately deepened and furnished with a marble reservoir, similar to those of the other springs, over which

a frame building has been erected. Its water is not as limpid as that of the other springs, in consequence of the excessive deposit of sulphur in combination with some organic element, which floats as a pellicle upon the surface of the spring. Frequently, when the heat of the sun is intense, a beautiful pink deposit resembling in appearance that met with in the "*Red Sulphur*," is discovered upon the sides and bottom of the reservoir. In taste and smell, it resembles very much the water of the other springs, but from being *ten degrees warmer*, is to some persons less palatable. It contains but a small portion of free gas, and hence presents a sluggish, and when covered by the pellicle alluded to, rather a disagreeable aspect. In chemical composition, it resembles the *Salt*, as the following extract from a letter of Professor Rogers will show: "I inclose you a list of the ingredients in the *Salt Sulphur* water, which applies to the *New* as well as the *Old* spring, the former having rather a smaller amount of saline matter in general, though in some ingredients surpassing the other. It has been very minutely analysed, and is the first of all the waters in which I was able to detect traces of *Iodine*, which it *contains in larger* amount than the *Old Spring*, and indeed most of the other waters in which I have been so fortunate as to discover this material." Its temperature ranges from 62° to 68° Fah.

Comparing the water of the *Salt Sulphur* with the sulphur waters of Europe, we shall find that it corresponds most nearly with those of the Harrowgate and Dinsdale springs in England. In this country there are several springs, the waters of which resemble it in many respects. The *White Sulphur*, (Greenbriar Co., Va.) The *Big Bone*, (Kentucky,) and the *Olympian*, (Kentucky,) are of this class.

The *New Spring*, although it resembles in most respects the *Salt*, contains, according to the analysis of Professor Rogers, a much larger proportion of iodine. The presence of this ingredient will render this water, in all probability, highly useful in many cases in which the other would prove either a feeble agent, or produce no effect whatever; scrofula, some diseases of the skin, goitre, and the affections for which iodine is generally given are among them. Having had but little experience in the use of this spring from the fact, that it had but recently been opened when

I visited the place, I will not hazard a positive opinion relative to its therapeutic virtues; I have little doubt, however, that it will speedily become a favorite as well as eminently useful water.

The *Old* spring contains most of the ingredients of the other two, but in *smaller quantity*, and hence may be useful in cases in which the latter operates too powerfully. My experience with this water being also limited, I must forbear until a future occasion saying much about its powers as a remedial agent.

In the exhibition of these waters the rules laid down as applicable to the administration of all others, may be adhered to. When it becomes necessary to change the water, or alternate it with another, I would recommend from its great similarity that of the "*White Sulphur*."

CHAPTER III.

DISEASES TO WHICH THE SALT SULPHUR IS APPLICABLE.

THE Salt Sulphur like almost all the sulphurous waters, being a stimulant, should consequently not be employed in acute or highly inflammatory affections. Nor in those in which there exists much active determination of blood to the head, or at least not until this determination has been guarded against by previous *diet, purgation*, and if necessary *blood-letting*. But in all *chronic* affections of the *brain, nervous system*, some diseases of the *lungs, stomach, bowels, liver, spleen, kidneys, and bladder*, it is one of the most valuable of our remedial agents. In diseases of the joints (gout and rheumatism) and skin; in *mercurial sequelæ*; in hæmorrhoidal affections; and in chronic diseases of the *womb* it is also a remedy of immense importance.

1. *Of Chronic Disease of the Brain!*—In no class of diseases, probably, is there required more caution in the exhibition of a mineral water and especially of one which under ordinary circumstances excites the system at large. Many persons on this account have prohibited its use, but experience, the only sure guide, has shown that many a case of chronic head-ache, incipient mania, and local palsy dependent upon congestion or chronic inflammation of the brain, will yield to the steady use of a cathartic mineral water, when almost every other agent has failed. For such cases the Salt Sulphur seems peculiarly adapted, but it must be used with caution, and assisted, if necessary, by local depletion, counter irritation, and diet.

2. *Neuralgia.*—It is well known to the profession, that neuralgic affections are often dependent upon a deranged condition of the chylopoietic viscera. The habitually costive, or those who have suffered from repeated attacks of miasmatic diseases, and the dyspeptic, are generally most liable to attacks of neural-

gia. In such cases I have known the Salt Sulphur prove highly beneficial.

3. *Nervous Diseases*.—The various affections termed nervous, such as hypochondria, hysteria, catalepsy, chorea, &c., are also frequently dependent upon disorder of the digestive apparatus, and resist all our remedies for months or years.—In such cases a trip to a mineral spring is generally recommended, not so much for the waters probably, as for the change of air, scene, mode of life, &c., which it entails. Making all due allowances for the beneficial action of the last named agents, I am confident that the steady cathartic action of the water is of infinite benefit. Two cases of chorea and one of hysteria I saw completely relieved in the course of six weeks, by the use of the Salt Sulphur water.

4. *Chronic Diseases of Chest*.—Diseases of the thoracic viscera are unfortunately but too common in our country and hence we find crowds of their unfortunate victims at nearly every watering place, seeking, and too often but vainly, some relief from their distressing condition. In some cases, those for example, in which the irritation is dependent upon the retrocession of some habitual discharge, and those too in which the skin is *dry* and *cool* and the indication is to produce a revulsion to the surface by directing the fluids from the centre to the circumference, which will also facilitate expectoration, the cautious administration of the Salt Sulphur water will be useful. In those cases also in which the cough is sympathetic or dependent upon some lesion of the chylopoietic viscera, it may be employed. But in every instance where it can be traced to an organic affection of the *heart* or *large blood vessels*, and if there be fever, emaciation, tubercles with cavities in the lung, hæmoptysis or diarrhœa, the death of the patient will be hastened by the employment of a stimulant so active as the Salt Sulphur. For pulmonary cases the Salt Sulphur offers the advantage of an agreeable temperature and a *dryness* of atmosphere not possessed by the other springs in the mountains of Virginia. During the season which continues from the first of June to the middle of September the thermometer ranges from 70° to 85° Fahrenheit, and there is little or no fog in the morning.

5. *Disease of the Heart*.—The following certificate is published by Mr. H. McF. of Williamsburg District, South Carolina. I cannot suppose, however, that the affection of the heart was *organic*, it must have been one of those cases of *functional disturbance* dependent upon disorder of the digestive apparatus.

September 4th, 1838.

“Mr. ERSKINE:—Having been a sufferer for more than three years from organic disease of the heart, connected with bronchitis, pronounced so by eminent physicians of South Carolina, I had the good fortune to visit your spring, and using the water freely for nearly two weeks, with a decidedly good effect upon my obstinate disease, I feel it a duty I owe to the public and to other sufferers like myself, to say, that I find it to possess none of the irritating quality that some persons suppose. So highly have I been pleased with the medicinal qualities of the water of your spring, that I beg you will send me a barrel of it, containing 30 or 35 gallons.”

H. McF.

6. *Chronic Diseases of the Abdominal Viscera*.—In making an estimate of the cases of disease one meets with at a watering place, it will not, I think, be going too far, to say, that two thirds at least are referable to some affection of the abdominal viscera. Hepatitis, jaundice, splenitis, gastritis, gastralgia, pyrosis, dyspepsia, enteritis, diarrhœa, &c., are encountered at every turn.

In *Hepatic affections*, or those commonly called *Bilious*, the Salt Sulphur water is, without doubt, one of the most powerful and efficient remedies we possess. When taken in a proper manner, its sanative influence is speedily manifested by a change in the biliary secretion. Constipation, the usual attendant upon such cases, is relieved, the sallowness of the skin disappears, and in the course of a few weeks a complete and radical cure is often accomplished.

Chronic Splenitis.—One of the most common, and at the same time one of the most obstinate of the sequelæ of the fevers of the south, I have known frequently relieved by the use of this water, as well as by that of the White Sulphur.

Chronic Gastric Irritation, it is well known, is often relieved by the administration of an agent calculated to set up a new ac-

tion in the mucous coat, and those cases of dyspepsia which depend upon such a condition of the stomach are often relieved by the use of a sulphur water. A number of such are annually met with at the Salt Sulphur, many of which leave the spring perfectly cured.

Gastralgia, or *Nervous Dyspepsia*, is also occasionally met with, and may depend upon a variety of causes—when it is purely a functional disease, unaccompanied by organic lesion, a sulphur water, along with sulphur baths will sometimes produce a very happy effect.

Pyrosis or *Water-brush* is another disease in which the Salt Sulphur, proves pre-eminently useful. I have known cases in which a pint or more of a secretion so acid, as to set the teeth on edge, was daily thrown up, radically cured by the use of this water in the course of six or eight weeks.—(Mr. F. of Princeton, is an example of this.)

When dyspepsia is known to be dependent upon scirrhus or cancer of the stomach, I would strenuously advise the patient to abstain from the use of the Salt Sulphur, and indeed from that of any mineral water. Mrs. C— of North Carolina was, I am convinced, destroyed by it.

Chronic Irritation of the Bowels, giving rise to chronic diarrhœa or dysentery, upon the principle of a new action being set up, are frequently cured by the use of the Salt Sulphur. I wish this statement to be borne in mind, for it is usual to decry the use of a sulphur water in such cases; but the experience of those who have paid attention to the subject, will bear me out in the assertion. Mr. T. of Philadelphia, who for three years labored under chronic diarrhœa, and who was supposed to have ulceration of the mucous membrane of the bowels, was radically cured by a few weeks use of the water.

Constipation.—Habitual costiveness is another affection for which the Salt Sulphur water is an excellent remedy.

Hemorrhoids.—The use of laxatives in piles is a treatment so long in use that nothing need be said in its favor, but the sulphur waters operate much more beneficially, than any other agent, inasmuch as in nearly every case of chronic piles we find the liver more or less affected. This fact, first observed by Armstrong, is

so universally admitted, that I shall not stop to say any thing towards its further substantiation.

7. *Chronic Diseases of the Urinary Organs.*—From the fact, that nearly all mineral waters, either from the quantity usually taken, or from some peculiarity of their ingredients, prove diuretic, they have always been favorite remedies in diseases of the urinary organs. Those which contain an excess of alkaline ingredients, have without doubt proved remarkably serviceable in cases of *acid* calculous diathesis, but it must be confessed that as a general rule, and always where the stone is large, they prove but a doubtful remedy. In the incipient stages of calculous disease, however, and those especially in which the formation of stone is dependent upon some disease of the digestive apparatus, the sulphur waters are often useful. Many such cases have been benefitted at the Salt Sulphur. When this water fails to accomplish the desired object, I have seen that of the *Sweet Spring* productive of much good.

Although this water may be considered as a somewhat doubtful remedy in calculus diseases of any duration, it must be allowed to possess astonishing sanative properties in chronic irritation of the *mucous membrane* of the *kidneys, bladder, prostate gland, and urethra*. Many cases of chronic *nephritis, vesical catarrh, prostatic irritation* and *gleet*, are annually cured by its employment.

8. *Chronic Diseases of the Genitals.*—Like all sulphur waters, those of the Salt Sulphur are often very useful in obstinate cases of general or local debility, the result of previous excessive indulgence. They are also remarkably beneficial in *atonic leucorrhœa, amenorrhœa, and dysmenorrhœa*, but when either of these complaints is dependent upon *local* or *general* plethora, the use of the water must be preceded by depletion, either *local* or *general*, according to circumstances.

9. *Chronic Rheumatism and Gout.*—The diseases most frequently met with, after those of the digestive organs, at our different watering places, are rheumatism and gout. In all such the alterative influence of a sulphur water, is invariably, I believe, more or less useful; but to receive full benefit from its use, the *warm* or *hot mineral bath* should be resorted to, and the

diet, clothing and *exercise* properly regulated. With many others, I cheerfully acknowledge the immense benefit derived from the use of the Salt Sulphur.

10. *Mercurial Rheumatism, Periostitis* and *Inflammation* of the *Bones*, are also very much relieved (in most cases) by the use of the Salt Sulphur. Along with the water, it will be well to use the *Hot Baths*.

11. *Chronic Diseases of the Skin*.—When judiciously administered, no remedy is productive of more permanent benefit in all cutaneous affections, than the Sulphur Waters; but unfortunately they are but too often abused. They are only suitable when the eruptions are of long duration, and unaccompanied by inflammation. Used in the acute stages, they aggravate the symptoms. It is always proper, moreover, to employ the warm or hot baths, during the use of the water. The Salt Sulphur is often eminently successful in relieving cases of this kind.

I have thus briefly sketched the principal affections to which the water of the Salt Sulphur is applicable, and to show that my assertions are borne out by facts, I insert the certificates of several persons, who with myself were very much benefitted by its use.

Salt Sulphur Springs, July 29th, 1835.

TO MESSRS. ERSKINE and CARUTHERS.

GENTLEMEN:—The undersigned visitors at the Salt Sulphur Springs, prompted by a sense of grateful respect for your kind and unwearied attentions to ourselves and families, beg leave to convey to you our assurance of entire satisfaction with the arrangements of your establishment.

Such have been the cordial hospitalities and ample and varied accommodations of your house, that we shall ever look back to our temporary residence with you, with pleasure and delight.

Experience, which is the best analysis your Spring can have, justifies us in recommending it as an invaluable anti-dyspeptic water, relieving the liver, bowels, and vascular system, and acting very kindly upon the secretions generally.

If order, abundant and well prepared fare, excellent bedding, quiet and obliging domestics, impartial and gentlemanly efforts

to promote health and comfort have any influence upon public favor, the proprietors of the Salt Sulphur, will certainly secure it.

With sentiments of respectful regard,

Your obedient servants,

Rev. Benjamin M. Palmer, Charleston, S. C.; James Chesnut, Camden, S. C.; Jos. Otis, New York; Rev. John Johns, D. D., Baltimore, Md.; Alfred Leyburn, M. D., Lexington, Va.; Rev. Henry V. D. Johns, Fredericktown, Md.; H. J. Levis, Philadelphia; Wm. H. Hubbard, Richmond, Va.; Thomas Wilson, Baltimore; Thomas Easley, Halifax county, Va.; A. Sebrell, Kanawha, Va.; Wm. Ellicott, Ellicott's Mills, Md.; Willis Jones, M. D., Milton, N. C.; Henry P. Norris, Baltimore; R. Jones, U. S. A., Washington; W. P. Meacham, Mississippi; Peter. H. Dilliard, Rockingham county, N. C., James V. Toby, New Orleans; Geo. L. Twiggs, Georgia; Richard Tubman, Georgia; S. T. Gaillard, South Carolina; P. A. Clay, Bedford, Va.; Jacob G. Davies, Baltimore; Samuel R. Smith, Baltimore; Robert M. R. Smith, Baltimore; J. B. Grimball, South Carolina; Oliver Norris, Baltimore; A. K. Brown, Petersburg; Wm. A. Caruthers, M. D., New York; Jno. Clark, M. D., New York; Samuel St. John, Jun., Mobile; Wm. Willson, Lexington, Va.; Charles S. Richards, New York; Olio Dyer, Mobile; Wm. Bones, Charleston, S. C.; John P. Staples, Patrick county, Va.; Geo. Walton, Lynchburg, Va.; John T. E. Lewis, Brunswick, Va.; James Greenlee, Rockbridge county, Va.; Benjamin B. Duke, Louisa county, Va.; M. H. Dosson, Louisiana; William Brown, North Carolina; Edward Wilkins, North Carolina; John Harleston, South Carolina, Francis D. Quash, South Carolina; S. Garland, Lynchburg, Va.; Geo. C. Friend, Charlotte county, Va.; Orlando S. Rees, South Carolina; J. B. Billysley, South Carolina; F. Pinckney Lowndes, Charleston, S. C.; Thomas Shivers, Philadelphia; Thomas W. White, Halifax county, Va.; Burwell Bassett, Williamsburg; C. P. Dorman, Lexington, Va.; Henry Robertson, Charlotte county, Va.; Charles H. Robertson, Charlotte county, Va.; Samuel N. Stevens, Charleston, S. C.

Salt Sulphur Spring, August 13th, 1838.

MESSRS. ERSKINE and CARUTHERS.

GENTLEMEN:—Having been greatly benefitted by drinking the waters of your valuable Spring, I deem it a duty to my fellow beings, to leave this statement of my case in your hands.

For six months previous to my coming here, I had been suffering with a most obstinate constipation of the bowels, which I had tried in vain to remove by medicine, diet and exercise, and during that time I could not obtain a stool without the aid of an injection, and great pain attending it. After being here ten days, the Salt Sulphur water began to act freely on my bowels, and now, at the expiration of a month, I am glad to inform you, that the constipation is entirely removed, my health and strength restored, and I am now going home in cheerful spirits to my friends. Yours truly, GEORGE A. BUTT, New York.

Salt Sulphur Springs, August 10th, 1836.

Mrs. ——— left her house in a state of great debility, scarcely able to walk, and was but little recruited by the journey. She reached the Salt Sulphur on the 20th of July, having stopped a week at the White Sulphur on the way, but without using the water. After remaining three days at the Salt Sulphur and partaking of the waters there, she proceeded to the Red Sulphur and staid there six days, returning on the 29th of July, to the Salt, having while at the Red, used two or three tumblers of the water per diem—remained at the Salt Sulphur until the 9th of August. When Mrs. ——— arrived first at the Salt Sulphur, she weighed 91, and was unable to walk any distance or use any degree of exercise, without suffering greatly.

In thirteen days after her arrival at the Salt Sulphur, was again weighed in the same scales, and had increased to 95 pounds and a half, making a gain of 4 pounds and a half in weight, while the circumference of her waist had been reduced nearly five inches. In the interim, her countenance and eyes had undergone an essential change for the better, her spirits and strength restored, so as to take any ordinary exercise of riding or walking without inconvenience. The quantity of water which she ordinarily took, was from three to four glasses per diem, and she

was careful in her diet, avoiding all warm bread and principally using bran bread, hominy, mutton, &c., &c.

Stanton, March, 1822.

Some years since, I was afflicted with an obstinate and dangerous disease, from which I was unable to obtain relief, until I visited the Salt Sulphur Spring, near Union, in the county of Monroe. The use of that water restored me to perfect health; which makes it my duty to state, at the request of the proprietors, the high opinion I have formed of its medicinal efficacy. I consider the Salt Sulphur water eminently useful in all cases that require cathartic remedies, particularly such diseases of the liver and stomach as proceed from biliary obstructions. The operation upon the bowels is active, but not violent; cleansing effectually the alimentary canal, and promoting digestion in a remarkable degree. The cathartic tendency of the water is so mild and certain, that the stomach and bowels are never oppressed or irritated—and whilst the healthy functions of the system are enabled to take their course, the suspended causes of disease are gradually worn away.

BRISCOE G. BALDWIN.

In the year 1812, I visited the Sweet and Sulphur Springs. I was then laboring under a nervous debility and extreme costiveness; I derived much benefit and relief from the use of all those waters, but found none so strong and active as the Salt Sulphur. I concur in the opinion with many, that this is a valuable water, and should be more sought after. Certified this 6th day of May, 1823.

S. B. CHAPMAN.

Salt Sulphur Spring, August 31st, 1836.

MESSRS. CARUTHERS & ERSKINE.

GENTLEMEN:—Intending to leave your excellent and perfectly arranged establishment to-morrow on my return home, I cannot however do so without expressing my thanks to you for your politeness and attention to myself (and I observed the same attention to others) during my stay at the Salt Sulphur; and I have much pleasure in saying that the use of the Salt Sulphur Spring water has been eminently beneficial to me, for prior to my coming here, I had been suffering for upwards of eighteen months

from a total derangement of stomach from a long residence in a warm climate, (Bermuda) say, bad bile, great acidity of stomach, and an overflow of mucus to the lungs; in short, I had dyspepsia with all its disagreeables, accompanied with debility of body. Having tried the White Sulphur water for ten days without benefit, I came here, and in a week I found relief from all my complaints, but my medical adviser who practised at the White recommended me to try the Red Sulphur, notwithstanding my having written to him of my improved state—my pulse for one thing being reduced from 80 to 73 beats:—I went to the Red and staid there eight days; my pulse rose on third day to 82, the 5th day 89, the 6th day to 96 and 100; I was obliged to be leeches, which reduced my pulse to 84; I had there headaches and great dryness of tongue; so on the 9th day in the morning I returned to the Salt, where on the 4th day my pulse was again at 73, on the sixth day at 71 beats, and has continued from that day to this, varying only from 71 to 72 night and morning. *I always counted my pulse in bed*, when quiet, before drinking the water, for after drinking the Spring water, my pulse latterly came down to 68 beats. I was attentive to my diet, taking only stale bread or dry toast with scarcely any butter, two cups of tea with milk (no cream) for breakfast; dinner was mutton (*no gravy*) with rice and stale bread, no other vegetable—sometimes I took roast fowl, but no pudding or pies; at tea time, I took one cup of tea and stale bread, no butter, I found grease so bad for me. The quantity of water taken by me was two half pint tumblers at half past 5 o'clock in the morning in bed, one tumbler at 12 o'clock, sometimes one at 5 o'clock, and when in bed at night I took one more tumbler of the water, but if I wished to perspire a little more freely I took two tumblers of it. I found the water determine gently to the bowels, rather than to the kidneys; what I took produced a full movement of the bowels. Before breakfast I walked a quarter of an hour; between breakfast and dinner I walked about five miles, often going to Union; between dinner and bed time I think I walked about two miles more—I used to calculate about seven miles a day. For one hour after dinner I remained quiet in my room. I ate fruit once, and it gave me such a lesson I never tried it again. I am thus particular; for it

may be of benefit to some one else next year, and you are quite welcome to show this letter if you wish it.

Wishing you your healths, not forgetting Mrs. Erskine, I remain, gentlemen, your obdt. servant,

W. H. BURNABY, BARONET.

Salt Sulphur Springs, September 22d, 1839.

MESSRS. ERSKINE & CARUTHERS:

I have been affected for five or six years with an obstinate disease of the liver and dyspepsia, and have visited nearly all the Springs in the mountains without having experienced any material benefit, until I came to this place. I have applied to some of the best physicians without being relieved, but am happy to state, that the Salt Sulphur water has had a most beneficial effect, in removing many of the inconveniencies attending my disease, insomuch that I am induced to carry a portion of it home with me.

Yours most respectfully,

JOSEPH E. GARRATT.

P. S. I am a resident of Knoxville, Frederick County, Maryland.

J. E. G.

A true copy of the original.

E. & CARUTHERS.

APPENDIX.

WITHIN the last two years the accommodations at the Salt Sulphur have been materially improved, so that at present three hundred and fifty visitors can be *conveniently* and *most comfortably* lodged. The *Table* and *Bar* are not surpassed by any in the mountains, and scarcely by any even in our large cities. Excellent *free stone* water can be obtained without difficulty, by those with whom the *limestone* disagrees.

Taking Washington D. C. as the starting point, the Salt Sulphur may be reached by a variety of routes. The shortest is by coach to Warrington or Lee's Spring—thence to Orange Court House, Charlottesville, Staunton, and Warm Springs. Another route is from Washington or Baltimore, by rail-road to Harper's Ferry and Winchester, thence to Harrisonburg, and thence to the Warm Spring, or from Winchester to Staunton and the Warm Springs; the distance is about one hundred and fifty miles by the first, and a little longer by the second; and the stage fare about ten cents a mile. A third route is by Steamboat down the Potomac, and up the James River to Richmond, the capital of Virginia; thence by railroad to Gordonsville eighty-five miles, and thence to Charlottesville by coach twenty miles more, thence to Staunton and Warm Springs. A fourth route is from Washington by Steamboat to Potomac creek; thence by stage, nine miles to Fredericksburg, thence by railroad to Gordonsville and thence to Charlottesville by coach.

The second route, (or that by Harper's Ferry,) which takes you through the beautiful valley of the Shenandoah is much the most agreeable. The great draw back to this route has been the badness of the road between Winchester and Harrisonburg, but within the last twelve months this has been removed, and there is now a fine Macdamised pike in its stead. The roads on the other routes are very good and in no respect *dangerous* as is usually imagined.

Having reached the *Warm Spring* and partaken of the excellent cheer of "Colonel Fry," you then proceed to the "*Hot*," five miles distant. This spring is owned by Dr. Goode, who resides on the premises, and is always ready to afford every assistance to the invalids who visit his baths. I cannot refrain from the expression of my warmest thanks to this gentleman for the great kindness received at his hands, and unhesitatingly recommend him as a skilful, and accomplished physician, to all who may stand in need of medical advice.

Thirty-five miles from the *Hot* is the "*White Sulphur*," the reputation of which is too well known to require any additional support. To Mr. William Calwell, and his "prime minister," Mr. King, I cordially recommend the invalid to entrust himself, for to more worthy and feeling hands he could not be confided. *Twenty-four* miles from the *White*, are the *Salt*, and here both sick and well may rest assured of a *hearty* as well as a *bountiful* welcome. In *sickness* especially do the good qualities of the excellent proprietors stand conspicuous.

Seventeen miles from the *Salt* is the *Red*, to which crowds of consumptive patients annually resort. Dr. Burke the proprietor, is a gentleman in every acceptation of the term, and does all in his power to render his guest comfortable, in which attempt he is universally successful.

Nine miles from the *Red* are the *Grey*, of which I know so little, that I will not venture an opinion respecting their virtues.

Thirty-two miles from the *Salt* is the *Blue*, and *twenty-three* miles from the former, are the *Sweet*, but of these I shall speak in another place.